

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: TOM POND	Lake Area (ha):	12.75
Town: WARNER	Maximum depth (m):	4.1
County: Merrimack	Mean depth (m):	2.5
River Basin: Merrimack	Volume (m ³):	314000
Latitude: 43°15'07" N	Relative depth:	1.0
Longitude: 71°45'21" W	Shore configuration:	1.26
Elevation (ft): 383	Areal water load (m/yr):	8.70
Shore length (m): 1600	Flushing rate (yr ⁻¹):	3.50
Watershed area (ha): 243.3	P retention coeff.:	0.57
% watershed ponded: 3.9	Lake type:	natural

BIOLOGICAL:

19 January 1999

23 July 1998

DOM. PHYTOPLANKTON (% TOTAL)	#1	NO WINTER PLANKTON	RHIZOSOLENIA 45%
	#2	ANALYZED	SYNEDRA 45%
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			13.61
DOM. ZOOPLANKTON (% TOTAL)	#1		KERATELLA 59%
	#2		KELICOTTIA 10%
	#3		NAUPLIUS LARVA 8%
ROTIFERS/LITER			663
MICROCRUSTACEA/LITER			75
ZOOPLANKTON ABUNDANCE (#/L)			827
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			2.2
BOTTOM DISSOLVED OXYGEN (mg/L)		8.8	0.2
BACTERIA (E. coli, #/100 ml)	#1		1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	1.7
Hypolimnion volume (m ³):	3250
Anoxic volume (m ³):	3250

CHEMICAL:

Lake: TOM POND

Town: WARNER

	19 January 1999		23 July 1998		
DEPTH (m)	1.5	3.0	1.0		3.0
pH (units)	6.3	6.2	7.0		6.5
A.N.C. (Alkalinity)	9.4	12.1	9.4		10.6
NITRATE NITROGEN	0.32	0.22	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.30	0.30	0.30		0.40
TOTAL PHOSPHORUS	0.019	0.009	0.008		0.009
CONDUCTIVITY (μ mhos/cm)	107.1	125.7	88.9		94.6
APPARENT COLOR (cpu)	16	17	25		27
MAGNESIUM			0.85		
CALCIUM			5.1		
SODIUM			9.7		
POTASSIUM			0.79		
CHLORIDE	24	28	17		18
SULFATE	4	4	3		3
TN : TP	33	58	38		44
CALCITE SATURATION INDEX			2.6		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

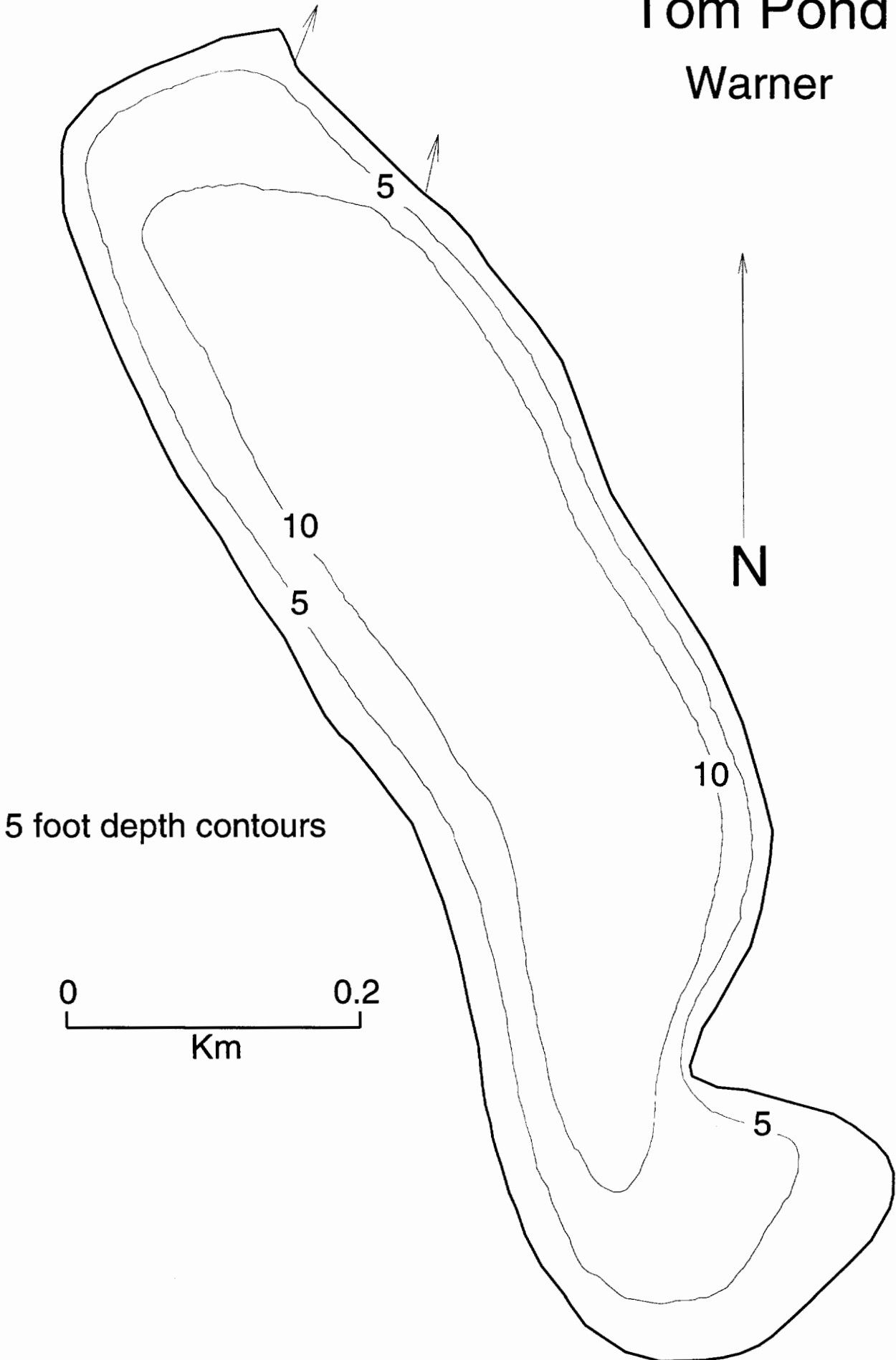
D.O. S.D. PLANT CHL TOTAL CLASS

4	3	1	3	11	Meso.
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COMMENTS:

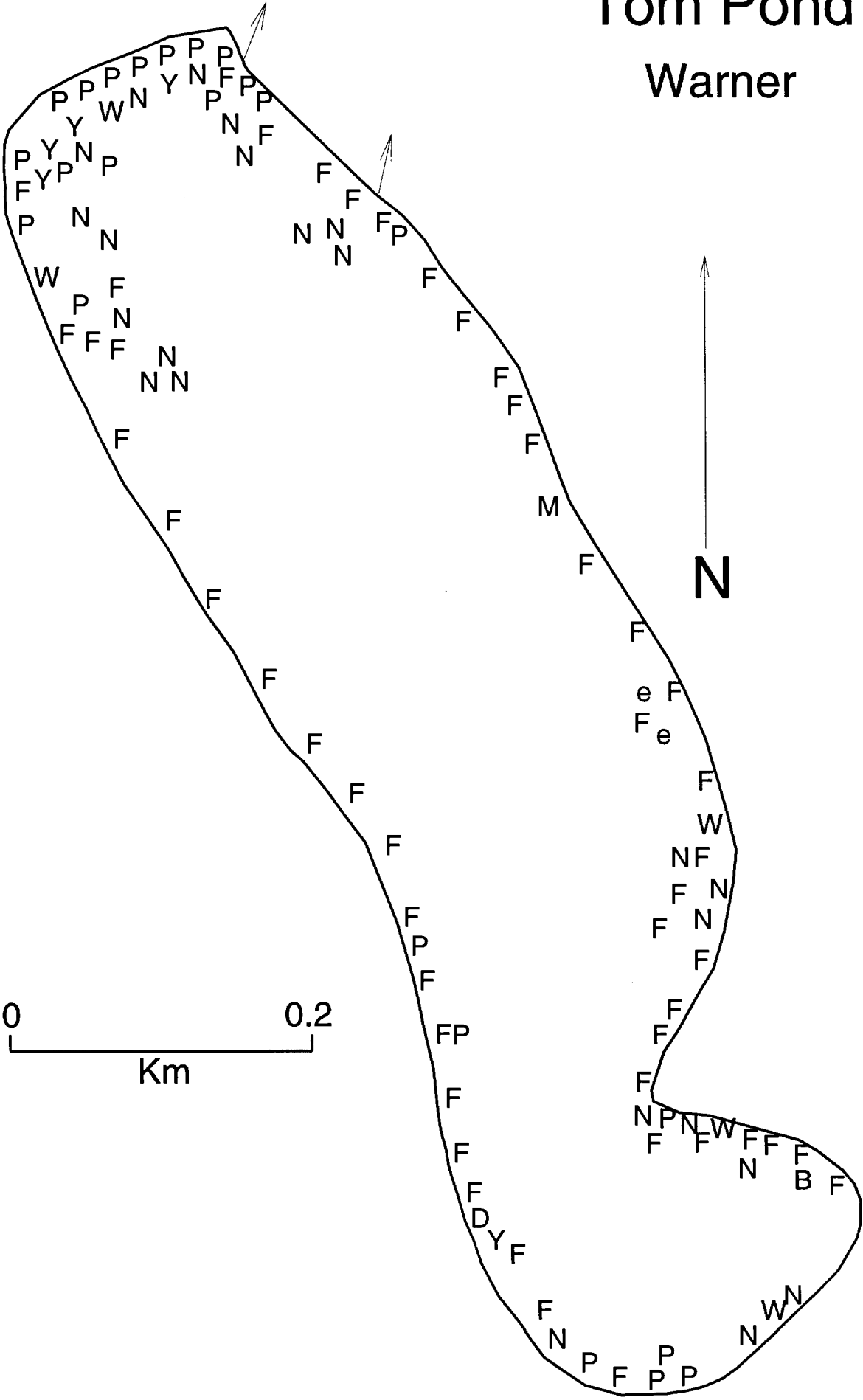
1. aka Diamond Pond.
2. 10 mph speed limit on the pond.
3. No public access; pond was accessed over private land with a canoe.
4. Tom Pond was previously surveyed and classified in 1980. There was no change in trophic class but some trophic indicators deteriorated; e.g., the chlorophyll more than doubled (6 to 13 mg/m³) between the two dates. In 1980, the water column was not stratified and there was plenty of dissolved oxygen to the bottom. In 1998, a thermocline existed - but a very small hypolimnion was present - and there was essentially no oxygen at the bottom.
5. Tom Pond has participated in VLAP since 1987. The data indicates an improving trend for chlorophyll and phosphorus and a stable trend for Secchi transparency during this period.

Tom Pond Warner



[illegible]

Tom Pond
Warner



[illegible]